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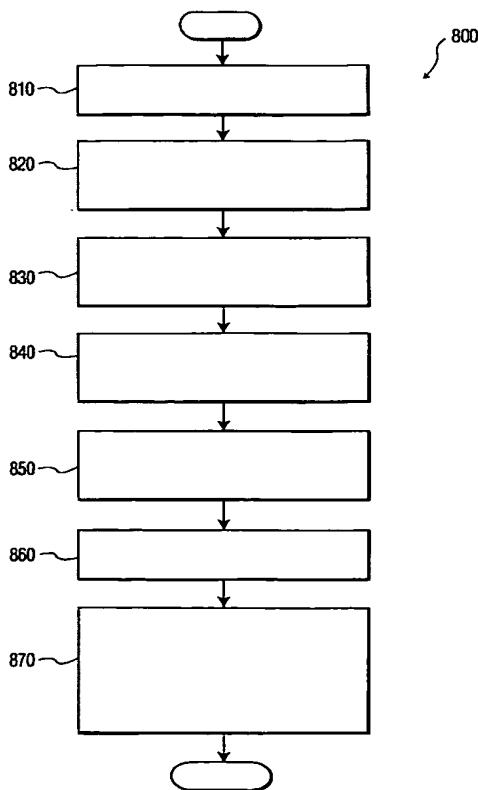
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(54) Title: **3-D MORPHOLOGICAL OPERATIONS WITH ADAPTIVE STRUCTURING ELEMENTS FOR CLUSTERING OF SIGNIFICANT COEFFICIENTS WITHIN AN OVERCOMPLETE WAVELET VIDEO CODING FRAMEWORK**



(57) Abstract: A system and method is provided for digitally encoding video signals within an overcomplete wavelet video coder. Three dimensional morphological operations are used to identify clusters of significant wavelet coefficients. A video coding algorithm unit 365 locates significant wavelet coefficients across space and time. The video coding algorithm unit [365] also uses motion information to locate significant wavelet coefficients across space and time in a direction of motion. The lengths of a three dimensional structuring element [500] may be adaptively varied depending upon characteristics of the underlying video data. The invention increases coding efficiency and provides an increased quality of decoded video.

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